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Just the Facts: A Fresh Look at Undergraduate Engineering Retention | College of Engineering

02/14/2015

(From Archive) Originally posted Feb. 14, 2015 – Dean Adams is serious about statistics.

The department head and associate dean in the College of Engineering at Utah State University can pull up dozens of detailed spreadsheets and graphs outlining the latest trends in student performance.



Adams, Ph.D., is leading an ongoing effort by researchers in the department of engineering education to identify potential road blocks that prevent some engineering majors from reaching their academic goals.

“The College of Engineering attracts some of the very best students entering the University,” he said. “So why are we not retaining more of these top students?”

He points to a variety of issues including inadequate preparation for the rigors of university studies and the lack of student commitment necessary to succeed in an engineering program.

“We’re currently looking at two main concerns that have been identified as important retention factors in our college,” he said. “There has been a comprehensive look at university and college courses that may be ‘stumbling blocks’ or impediments for student success. The most common courses of concern are mathematics courses. This is very common for engineering and computer science degree programs across the country.”

Under Adams’ leadership, the college has worked closely with the math and statistics department at USU to better understand where modifications and improvements can be made to enhance student success.

Another main factor under evaluation is the quality of advising programs – something Adams and other experts say is one of the most underestimated aspects of student



retention.

“Advising – giving good, sound, accurate advice – sets the student on a solid path to graduation,” he added. “Along the way, the student will develop thinking, learning and problem solving skills and be headed toward a productive, satisfying personal and professional career.”

Adams has initiated major changes to Utah State’s engineering advising program that puts more emphasis on personal interaction between students and advisers.

“It provides better opportunities for the advisers to get to know the students, connect academics with life goals and discuss opportunities such as internships, job possibilities and graduate school potential,” he explained. “This new advising system is working well for our engineering and computer science students. The process has been very helpful in keeping students on track toward graduation, and both students and parents seem to appreciate the simplicity.”

The work by Adams and his colleagues in the department of engineering education continues to reveal important underlying factors to student success. With additional research, they hope to further develop the tools and expertise needed to meet the global challenge in training future engineering leaders and for designing better academic programs and learning outcomes.

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